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Cradle to Grave: A Study of Sustainable Food Practices in a University Setting

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INTRODUCTION

University dining facilities are beginning to recognize their role in sustainability. Many universities are paying attention to their campus dining facilities to reduce their carbon footprint. The ultimate goal of this research was to understand the process of food service sustainability through a limited "cradle-to-grave" analysis of Southern Illinois University's campus dining facilities.

METHODS

Food Mileage Analysis

-Using a mileage calculator and a carbon footprint calculator, we were able to determine miles traveled and the amount of Co2 produced by the university. Through these numbers we were able to determine the amount of sustainable products

Food Waste Analysis

-This analysis was performed on two separate days for each of the three serving periods to obtain a per student average. After the serving period had ended, the waste was gathered and weighed on a scale.

Vermi-composting Analysis

-Analyzed the amount of waste produced and the time taken to reduce the waste

RESULTS

The total mileage of the food items is 775,394.50 miles. The total carbon foot print for the university is 1538.06 tons of Co2 for 1,990 items. Results showed that the dining halls were 15.67% sustainable in its food purchasing process. The goal for the university was to obtain a 20% purchase rate of sustainable products. The average food waste produced per student was 1.04 oz a day. In 2007, the university's recycling center conducted a plate waste study and calculated food waste to be approximately 4-ounces per person with trays. This demonstrates that tray-less dining has proven effective and needs to be continued. The amount of time taken for vermi-composting to reduce the food waste was longer than anticipated. The longer time frame translated into additional monies to pay for utilities for the building and payroll for the workers. Vermi-composting, although, ecological friendly was not cost effective.

"CRADLE TO GRAVE"

Table 1. Total Amount of Mileage and Co2 Output for Dining Halls

Category	Total Number of Items	Total Mileage Per Category	Total Co2 Per Category	Percentage of Travel	Percentage of Co2
Dressings	406	110,613.73	211.95	14.27%	13.78%
Meats	359	140,371.12	268.21	18.10%	17.44%
Fresh Produce	136	106,788.63	205.98	13.77%	13.39%
Other Produce*	286	170,063.81	354.97	21.93%	23.07%
Desserts	281	101,930.81	208.54	13.14%	13.56%
Dairy	103	18,003.89	34.56	2.32%	2.25%
Breads	135	70,491.35	138.83	9.10%	9.03%
Soups	284	57,176.21	115.02	7.37%	7.48%
Total	1990	775439.50	1538.06	100.00%	100.00%

*Other Produce refers to bagged, canned or frozen

Table 1. Sustainable Food Purchases Within 250 miles of the university

Category	Total Number of Items	Number of Sustainable (Trueblood)	Number of Sustainable (Lentz)	Number of Sustainable (Uhall)	Percent of Sustainable Purchases
Dressings	406	23	21	16	2.93%
Meats	359	15	21	18	2.64%
Fresh Produce	136	14	15	16	2.20%
Other Produce*	286	4	4	2	0.49%
Desserts	281	7	8	11	0.88%
Dairy	103	31	13	14	2.83%
Breads	89	21	18	19	2.83%
Beverage/Soups	135	1	1	0	0.10%
Total	1990	116	101	96	15.67%

*Other produce refers to bagged, canned, or frozen.

Table 3. Avg. Per Student Waste Throughout the Dining Halls

Dining Hall	Total Number of Students	Total Amount of Waste (lbs)	Avg. Waste Per Students
Trueblood	4288	236.25	.52 oz per student
Lentz	2978	236.5	.79 oz per student
Total	7266	472.75	1.04 oz per student

Three-Week "Planned" Cycle of Food Waste Stages of Pre-Compost

Week 1 Food Waste Bin A	Week 2 Food Waste Bin B	Week 3 Food Waste Bin C
Actual Time	**Actual Time**	**Actual Time**
5 Weeks	5 Weeks	5 Weeks

Week 4-5 Food Waste Goes to the Landfill